

SEQUENCE LISTING



<110> Gentz, Reiner

<120> Tumor Necrosis Factor Receptors 6 Alpha and 6 Beta

<130> PF454P1

<140> 09/518,931

<141> 2000-03-03

<150> 09/006,352

<151> 1998-01-13

<150> 60/121,774

<151> 1999-03-04

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<151> 1999-03-12

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<151> 1999-04-27

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<150> 60/146,371

<151> 1999-08-02

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<170> PatentIn Ver. 2.1

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Ser	Leu	Leu	Cys	Leu	Val	Leu	Ala	Leu	Pro	Ala	Leu	Leu	Pro	Val	Pro	
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Ala	Val	Arg	Gly	Val	Ala	Glu	Thr	Pro	Thr	Tyr	Pro	Trp	Arg	Asp	Ala	
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Glu Thr Gly Glu Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe	
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Val Gln Arg Pro Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys	
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cca ccg cgc cac tac acg cag ttc tgg aac tac ctg gag cgc tgc cgc	291
Pro Pro Arg His Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg	
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tac tgc aac gtc ctc tgc ggg gag cgt gag gag gag gca cgg gct tgc	339
Tyr Cys Asn Val Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys	
90 95 100 105	
cac gcc acc cac aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg	387
His Ala Thr His Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala	
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His Ala Gly Phe Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly	
125 130 135	
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Val Ile Ala Pro Gly Thr Pro Ser Gln Asn Thr Gln Cys Gln Pro Cys	
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Pro Pro Gly Thr Phe Ser Ala Ser Ser Ser Ser Ser Glu Gln Cys Gln	
155 160 165	
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Pro His Arg Asn Cys Thr Ala Leu Gly Leu Ala Leu Asn Val Pro Gly	
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tct tcc tcc cat gac acc ctg tgc acc agc tgc act ggc ttc ccc ctc	627
Ser Ser Ser His Asp Thr Leu Cys Thr Ser Cys Thr Gly Phe Pro Leu	
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agc acc agg gta cca gga gct gag gag tgt gag cgt gcc gtc atc gac	675
Ser Thr Arg Val Pro Gly Ala Glu Glu Cys Glu Arg Ala Val Ile Asp	
205 210 215	
ttt gtg gct ttc cag gac atc tcc atc aag agg ctg cag cgg ctg ctg	723
Phe Val Ala Phe Gln Asp Ile Ser Ile Lys Arg Leu Gln Arg Leu Leu	
220 225 230	
cag gcc ctc gag gcc ccg gag ggc tgg ggt ccg aca cca agg gcg ggc	771
Gln Ala Leu Glu Ala Pro Glu Gly Trp Gly Pro Thr Pro Arg Ala Gly	
235 240 245	
cgc gcg gcc ttg cag ctg aag ctg cgt cgg cgg ctc acg gag ctc ctg	819
Arg Ala Ala Leu Gln Leu Lys Leu Arg Arg Arg Leu Thr Glu Leu Leu	
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ggg gcg cag gac ggg gcg ctg ctg gtg cgg ctg ctg cag gcg ctg cgc 867
 Gly Ala Gln Asp Gly Ala Leu Leu Val Arg Leu Leu Gln Ala Leu Arg
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gtg gcc agg atg ccc ggg ctg gag cgg agc gtc cgt gag cgc ttc ctc 915
 Val Ala Arg Met Pro Gly Leu Glu Arg Ser Val Arg Glu Arg Phe Leu
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cct gtg cac tgatcctggc cccctcttat ttattctaca tccttggcac 964
 Pro Val His
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 <212> PRT
 <213> Homo sapiens

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 20 25 30

Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
 35 40 45

Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
 50 55 60

Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
 65 70 75 80

Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
 85 90 95

Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
 100 105 110

Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
 115 120 125

His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Thr Pro
 130 135 140

Ser Gln Asn Thr Gln Cys Gln Pro Cys Pro Pro Gly Thr Phe Ser Ala
 145 150 155 160

Ser Ser Ser Ser Ser Glu Gln Cys Gln Pro His Arg Asn Cys Thr Ala
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Leu Gly Leu Ala Leu Asn Val Pro Gly Ser Ser Ser His Asp Thr Leu

180	185	190
Cys Thr Ser Cys Thr Gly Phe Pro Leu Ser Thr Arg Val Pro Gly Ala		
195	200	205
Glu Glu Cys Glu Arg Ala Val Ile Asp Phe Val Ala Phe Gln Asp Ile		
210	215	220
Ser Ile Lys Arg Leu Gln Arg Leu Leu Gln Ala Leu Glu Ala Pro Glu		
225	230	235 240
Gly Trp Gly Pro Thr Pro Arg Ala Gly Arg Ala Ala Leu Gln Leu Lys		
	245	250 255
Leu Arg Arg Arg Leu Thr Glu Leu Leu Gly Ala Gln Asp Gly Ala Leu		
	260	265 270
Leu Val Arg Leu Leu Gln Ala Leu Arg Val Ala Arg Met Pro Gly Leu		
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Glu Arg Ser Val Arg Glu Arg Phe Leu Pro Val His		
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<220>
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 Met Arg Ala Leu Glu Gly Pro Gly Leu Ser Leu Leu Cys
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ctg gtg ttg gcg ctg cct gcc ctg ctg ccg gtg ccg gct gta cgc gga 159
 Leu Val Leu Ala Leu Pro Ala Leu Leu Pro Val Pro Ala Val Arg Gly
 15 20 25

gtg gca gaa aca ccc acc tac ccc tgg cgg gac gca gag aca ggg gag 207
 Val Ala Glu Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu
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cgg ctg gtg tgc gcc cag tgc ccc cca ggc acc ttt gtg cag cgg ccg 255
 Arg Leu Val Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro
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tgc cgc cga gac agc ccc acg acg tgt ggc ccg tgt cca ccg cgc cac 303
 Cys Arg Arg Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His
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Tyr Thr Gln Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val	
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Leu Cys Gly Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His	
95 100 105	
aac cgt gcc tgc cgc tgc cgc acc ggc ttc ttc gcg cac gct ggt ttc	447
Asn Arg Ala Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe	
110 115 120 125	
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Cys Leu Glu His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro	
130 135 140	
ggt gag agc tgg gcg agg gga ggg gcc ccc agg agt ggt ggc cgg agg	543
Gly Glu Ser Trp Ala Arg Gly Gly Ala Pro Arg Ser Gly Gly Arg Arg	
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Cys Gly Arg Gly Gln Val Ala Gly Pro Ser Leu Ala Pro	
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ccagaggcct gagggggcag cacactgcag gccaggccca cttgtgccct cactcctgcc	892
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ccgagtgggg ccagaaaagc agggctacct gcagcccccg ccagtgtgtg tgggtgaaat	1552
gatcggaccg ctgcctcccc accccactgc aggagctgag gagtgtgagc gtgccgtcat	1612

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1667

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20 25 30

Thr Pro Thr Tyr Pro Trp Arg Asp Ala Glu Thr Gly Glu Arg Leu Val
35 40 45

Cys Ala Gln Cys Pro Pro Gly Thr Phe Val Gln Arg Pro Cys Arg Arg
50 55 60

Asp Ser Pro Thr Thr Cys Gly Pro Cys Pro Pro Arg His Tyr Thr Gln
65 70 75 80

Phe Trp Asn Tyr Leu Glu Arg Cys Arg Tyr Cys Asn Val Leu Cys Gly
85 90 95

Glu Arg Glu Glu Glu Ala Arg Ala Cys His Ala Thr His Asn Arg Ala
100 105 110

Cys Arg Cys Arg Thr Gly Phe Phe Ala His Ala Gly Phe Cys Leu Glu
115 120 125

His Ala Ser Cys Pro Pro Gly Ala Gly Val Ile Ala Pro Gly Glu Ser
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Trp Ala Arg Gly Gly Ala Pro Arg Ser Gly Gly Arg Arg Cys Gly Arg
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Gly Gln Val Ala Gly Pro Ser Leu Ala Pro
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<213> Homo sapiens

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20 25 30

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Tyr	Ile	His	Pro	Gln	Asn	Asn	Ser	Ile	Cys	Cys	Thr	Lys	Cys	His	Lys	50	55	60	
Gly	Thr	Tyr	Leu	Tyr	Asn	Asp	Cys	Pro	Gly	Pro	Gly	Gln	Asp	Thr	Asp	65	70	75	80
Cys	Arg	Glu	Cys	Glu	Ser	Gly	Ser	Phe	Thr	Ala	Ser	Glu	Asn	His	Leu	85	90	95	
Arg	His	Cys	Leu	Ser	Cys	Ser	Lys	Cys	Arg	Lys	Glu	Met	Gly	Gln	Val	100	105	110	
Glu	Ile	Ser	Ser	Cys	Thr	Val	Asp	Arg	Asp	Thr	Val	Cys	Gly	Cys	Arg	115	120	125	
Lys	Asn	Gln	Tyr	Arg	His	Tyr	Trp	Ser	Glu	Asn	Leu	Phe	Gln	Cys	Phe	130	135	140	
Asn	Cys	Ser	Leu	Cys	Leu	Asn	Gly	Thr	Val	His	Leu	Ser	Cys	Gln	Glu	145	150	155	160
Lys	Gln	Asn	Thr	Val	Cys	Thr	Cys	His	Ala	Gly	Phe	Phe	Leu	Arg	Glu	165	170	175	
Asn	Glu	Cys	Val	Ser	Cys	Ser	Asn	Cys	Lys	Lys	Ser	Leu	Glu	Cys	Thr	180	185	190	
Lys	Leu	Cys	Leu	Pro	Gln	Ile	Glu	Asn	Val	Lys	Gly	Thr	Glu	Asp	Ser	195	200	205	
Gly	Thr	Thr	Val	Leu	Leu	Pro	Leu	Val	Ile	Phe	Phe	Gly	Leu	Cys	Leu	210	215	220	
Leu	Ser	Leu	Leu	Phe	Ile	Gly	Leu	Met	Tyr	Arg	Tyr	Gln	Arg	Trp	Lys	225	230	235	240
Ser	Lys	Leu	Tyr	Ser	Ile	Val	Cys	Gly	Lys	Ser	Thr	Pro	Glu	Lys	Glu	245	250	255	
Gly	Glu	Leu	Glu	Gly	Thr	Thr	Thr	Lys	Pro	Leu	Ala	Pro	Asn	Pro	Ser	260	265	270	
Phe	Ser	Pro	Thr	Pro	Gly	Phe	Thr	Pro	Thr	Leu	Gly	Phe	Ser	Pro	Val	275	280	285	
Pro	Ser	Ser	Thr	Phe	Thr	Ser	Ser	Ser	Thr	Tyr	Thr	Pro	Gly	Asp	Cys	290	295	300	
Pro	Asn	Phe	Ala	Ala	Pro	Arg	Arg	Glu	Val	Ala	Pro	Pro	Tyr	Gln	Gly	305	310	315	320
Ala	Asp	Pro	Ile	Leu	Ala	Thr	Ala	Leu	Ala	Ser	Asp	Pro	Ile	Pro	Asn	325	330	335	

Pro Leu Gln Lys Trp Glu Asp Ser Ala His Lys Pro Gln Ser Leu Asp
 340 345 350
 Thr Asp Asp Pro Ala Thr Leu Tyr Ala Val Val Glu Asn Val Pro Pro
 355 360 365
 Leu Arg Trp Lys Glu Phe Val Arg Arg Leu Gly Leu Ser Asp His Glu
 370 375 380
 Ile Asp Arg Leu Glu Leu Gln Asn Gly Arg Cys Leu Arg Glu Ala Gln
 385 390 395 400
 Tyr Ser Met Leu Ala Thr Trp Arg Arg Arg Thr Pro Arg Arg Glu Ala
 405 410 415
 Thr Leu Glu Leu Leu Gly Arg Val Leu Arg Asp Met Asp Leu Leu Gly
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 Cys Leu Glu Asp Ile Glu Glu Ala Leu Cys Gly Pro Ala Ala Leu Pro
 435 440 445
 Pro Ala Pro Ser Leu Leu Arg
 450 455

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 Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln
 35 40 45
 Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His Ala Lys
 50 55 60
 Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys Glu Asp
 65 70 75 80
 Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu Ser Cys
 85 90 95
 Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys Thr Arg
 100 105 110
 Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu
 115 120 125
 Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg
 130 135 140

Pro	Gly	Phe	Gly	Val	Ala	Arg	Pro	Gly	Thr	Glu	Thr	Ser	Asp	Val	Val	
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Cys	Lys	Pro	Cys	Ala	Pro	Gly	Thr	Phe	Ser	Asn	Thr	Thr	Ser	Ser	Thr	
				165					170					175		
Asp	Ile	Cys	Arg	Pro	His	Gln	Ile	Cys	Asn	Val	Val	Ala	Ile	Pro	Gly	
			180					185					190			
Asn	Ala	Ser	Arg	Asp	Ala	Val	Cys	Thr	Ser	Thr	Ser	Pro	Thr	Arg	Ser	
		195					200					205				
Met	Ala	Pro	Gly	Ala	Val	His	Leu	Pro	Gln	Pro	Val	Ser	Thr	Arg	Ser	
	210					215					220					
Gln	His	Thr	Gln	Pro	Thr	Pro	Glu	Pro	Ser	Thr	Ala	Pro	Ser	Thr	Ser	
225					230					235					240	
Phe	Leu	Leu	Pro	Met	Gly	Pro	Ser	Pro	Pro	Ala	Glu	Gly	Ser	Thr	Gly	
				245					250					255		
Asp	Phe	Ala	Leu	Pro	Val	Gly	Leu	Ile	Val	Gly	Val	Thr	Ala	Leu	Gly	
			260					265					270			
Leu	Leu	Ile	Ile	Gly	Val	Val	Asn	Cys	Val	Ile	Met	Thr	Gln	Val	Lys	
		275					280					285				
Lys	Lys	Pro	Leu	Cys	Leu	Gln	Arg	Glu	Ala	Lys	Val	Pro	His	Leu	Pro	
	290					295					300					
Ala	Asp	Lys	Ala	Arg	Gly	Thr	Gln	Gly	Pro	Glu	Gln	Gln	His	Leu	Leu	
305					310					315					320	
Ile	Thr	Ala	Pro	Ser	Ser	Ser	Ser	Ser	Ser	Leu	Glu	Ser	Ser	Ala	Ser	
				325					330					335		
Ala	Leu	Asp	Arg	Arg	Ala	Pro	Thr	Arg	Asn	Gln	Pro	Gln	Ala	Pro	Gly	
			340					345					350			
Val	Glu	Ala	Ser	Gly	Ala	Gly	Glu	Ala	Arg	Ala	Ser	Thr	Gly	Ser	Ser	
		355					360					365				
Asp	Ser	Ser	Pro	Gly	Gly	His	Gly	Thr	Gln	Val	Asn	Val	Thr	Cys	Ile	
	370					375					380					
Val	Asn	Val	Cys	Ser	Ser	Ser	Asp	His	Ser	Ser	Gln	Cys	Ser	Ser	Gln	
385					390					395					400	
Ala	Ser	Ser	Thr	Met	Gly	Asp	Thr	Asp	Ser	Ser	Pro	Ser	Glu	Ser	Pro	
				405					410					415		
Lys	Asp	Glu	Gln	Val	Pro	Phe	Ser	Lys	Glu	Glu	Cys	Ala	Phe	Arg	Ser	
			420					425					430			
Gln	Leu	Glu	Thr	Pro	Glu	Thr	Leu	Leu	Gly	Ser	Thr	Glu	Glu	Lys	Pro	
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 <213> Homo sapiens

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 20 25 30

Pro Thr Gly Leu Tyr Thr His Ser Gly Glu Cys Cys Lys Ala Cys Asn
 35 40 45

Leu Gly Glu Gly Val Ala Gln Pro Cys Gly Ala Asn Gln Thr Val Cys
 50 55 60

Glu Pro Cys Leu Asp Ser Val Thr Phe Ser Asp Val Val Ser Ala Thr
 65 70 75 80

Glu Pro Cys Lys Pro Cys Thr Glu Cys Val Gly Leu Gln Ser Met Ser
 85 90 95

Ala Pro Cys Val Glu Ala Asp Asp Ala Val Cys Arg Cys Ala Tyr Gly
 100 105 110

Tyr Tyr Gln Asp Glu Thr Thr Gly Arg Cys Glu Ala Cys Arg Val Cys
 115 120 125

Glu Ala Gly Ser Gly Leu Val Phe Ser Cys Gln Asp Lys Gln Asn Thr
 130 135 140

Val Cys Glu Glu Cys Pro Asp Gly Thr Tyr Ser Asp Glu Ala Asn His
 145 150 155 160

Val Asp Pro Cys Leu Pro Cys Thr Val Cys Glu Asp Thr Glu Arg Gln
 165 170 175

Leu Arg Glu Cys Thr Arg Trp Ala Asp Ala Glu Cys Glu Glu Ile Pro
 180 185 190

Gly Arg Trp Ile Thr Arg Ser Thr Pro Pro Glu Gly Ser Asp Ser Thr
 195 200 205

Ala Pro Ser Thr Gln Glu Pro Glu Ala Pro Pro Glu Gln Asp Leu Ile
 210 215 220

Ala Ser Thr Val Ala Gly Val Val Thr Thr Val Met Gly Ser Ser Gln
 225 230 235 240

Pro Val Val Thr Arg Gly Thr Thr Asp Asn Leu Ile Pro Val Tyr Cys

Lys	Thr	Cys	Pro	His	Asn	Ser	Tyr	Asn	Glu	His	Trp	Asn	His	Leu	Ser		
				85					90					95			
Thr	Cys	Gln	Leu	Cys	Arg	Pro	Cys	Asp	Ile	Val	Leu	Gly	Phe	Glu	Glu		
			100					105					110				
Val	Ala	Pro	Cys	Thr	Ser	Asp	Arg	Lys	Ala	Glu	Cys	Arg	Cys	Gln	Pro		
		115					120					125					
Gly	Met	Ser	Cys	Val	Tyr	Leu	Asp	Asn	Glu	Cys	Val	His	Cys	Glu	Glu		
	130					135					140						
Glu	Arg	Leu	Val	Leu	Cys	Gln	Pro	Gly	Thr	Glu	Ala	Glu	Val	Thr	Asp		
145					150					155					160		
Glu	Ile	Met	Asp	Thr	Asp	Val	Asn	Cys	Val	Pro	Cys	Lys	Pro	Gly	His		
				165					170					175			
Phe	Gln	Asn	Thr	Ser	Ser	Pro	Arg	Ala	Arg	Cys	Gln	Pro	His	Thr	Arg		
			180					185					190				
Cys	Glu	Ile	Gln	Gly	Leu	Val	Glu	Ala	Ala	Pro	Gly	Thr	Ser	Tyr	Ser		
		195					200					205					
Asp	Thr	Ile	Cys	Lys	Asn	Pro	Pro	Glu	Pro	Gly	Ala	Met	Leu	Leu	Leu		
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Ala	Ile	Leu	Leu	Ser	Leu	Val	Leu	Phe	Leu	Leu	Phe	Thr	Thr	Val	Leu		
225					230					235					240		
Ala	Cys	Ala	Trp	Met	Arg	His	Pro	Ser	Leu	Cys	Arg	Lys	Leu	Gly	Thr		
				245					250					255			
Leu	Leu	Lys	Arg	His	Pro	Glu	Gly	Glu	Glu	Ser	Pro	Pro	Cys	Pro	Ala		
			260					265					270				
Pro	Arg	Ala	Asp	Pro	His	Phe	Pro	Asp	Leu	Ala	Glu	Pro	Leu	Leu	Pro		
		275					280					285					
Met	Ser	Gly	Asp	Leu	Ser	Pro	Ser	Pro	Ala	Gly	Pro	Pro	Thr	Ala	Pro		
	290					295					300						
Ser	Leu	Glu	Glu	Val	Val	Leu	Gln	Gln	Gln	Ser	Pro	Leu	Val	Gln	Ala		
305					310					315					320		
Arg	Glu	Leu	Glu	Ala	Glu	Pro	Gly	Glu	His	Gly	Gln	Val	Ala	His	Gly		
				325					330					335			
Ala	Asn	Gly	Ile	His	Val	Thr	Gly	Gly	Ser	Val	Thr	Val	Thr	Gly	Asn		
			340					345					350				
Ile	Tyr	Ile	Tyr	Asn	Gly	Pro	Val	Leu	Gly	Gly	Thr	Arg	Gly	Pro	Gly		
		355				360						365					
Asp	Pro	Pro	Ala	Pro	Pro	Glu	Pro	Pro	Tyr	Pro	Thr	Pro	Glu	Glu	Gly		
	370					375					380						

Ala Pro Gly Pro Ser Glu Leu Ser Thr Pro Tyr Gln Glu Asp Gly Lys
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Ala Trp His Leu Ala Glu Thr Glu Thr Leu Gly Cys Gln Asp Leu
405 410 415

<210> 9

<211> 335

<212> PRT

<213> Homo sapiens

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Met Leu Gly Ile Trp Thr Leu Leu Pro Leu Val Leu Thr Ser Val Ala
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Arg Leu Ser Ser Lys Ser Val Asn Ala Gln Val Thr Asp Ile Asn Ser
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Lys Gly Leu Glu Leu Arg Lys Thr Val Thr Thr Val Glu Thr Gln Asn
35 40 45

Leu Glu Gly Leu His His Asp Gly Gln Phe Cys His Lys Pro Cys Pro
50 55 60

Pro Gly Glu Arg Lys Ala Arg Asp Cys Thr Val Asn Gly Asp Glu Pro
65 70 75 80

Asp Cys Val Pro Cys Gln Glu Gly Lys Glu Tyr Thr Asp Lys Ala His
85 90 95

Phe Ser Ser Lys Cys Arg Arg Cys Arg Leu Cys Asp Glu Gly His Gly
100 105 110

Leu Glu Val Glu Ile Asn Cys Thr Arg Thr Gln Asn Thr Lys Cys Arg
115 120 125

Cys Lys Pro Asn Phe Phe Cys Asn Ser Thr Val Cys Glu His Cys Asp
130 135 140

Pro Cys Thr Lys Cys Glu His Gly Ile Ile Lys Glu Cys Thr Leu Thr
145 150 155 160

Ser Asn Thr Lys Cys Lys Glu Glu Gly Ser Arg Ser Asn Leu Gly Trp
165 170 175

Leu Cys Leu Leu Leu Leu Pro Ile Pro Leu Ile Val Trp Val Lys Arg
180 185 190

Lys Glu Val Gln Lys Thr Cys Arg Lys His Arg Lys Glu Asn Gln Gly
195 200 205

Ser His Glu Ser Pro Thr Leu Asn Pro Glu Thr Val Ala Ile Asn Leu
210 215 220

Ser Asp Val Asp Leu Ser Lys Tyr Ile Thr Thr Ile Ala Gly Val Met
225 230 235 240

Thr Leu Ser Gln Val Lys Gly Phe Val Arg Lys Asn Gly Val Asn Glu
245 250 255

Ala Lys Ile Asp Glu Ile Lys Asn Asp Asn Val Gln Asp Thr Ala Glu
260 265 270

Gln Lys Val Gln Leu Leu Arg Asn Trp His Gln Leu His Gly Lys Lys
275 280 285

Glu Ala Tyr Asp Thr Leu Ile Lys Asp Leu Lys Lys Ala Asn Leu Cys
290 295 300

Thr Leu Ala Glu Lys Ile Gln Thr Ile Ile Leu Lys Asp Ile Thr Ser
305 310 315 320

Asp Ser Glu Asn Ser Asn Phe Arg Asn Glu Ile Gln Ser Leu Val
325 330 335

<210> 10

<211> 260

<212> PRT

<213> Homo sapiens

<400> 10

Met Ala Arg Pro His Pro Trp Trp Leu Cys Val Leu Gly Thr Leu Val
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Gly Leu Ser Ala Thr Pro Ala Pro Lys Ser Cys Pro Glu Arg His Tyr
20 25 30

Trp Ala Gln Gly Lys Leu Cys Cys Gln Met Cys Glu Pro Gly Thr Phe
35 40 45

Leu Val Lys Asp Cys Asp Gln His Arg Lys Ala Ala Gln Cys Asp Pro
50 55 60

Cys Ile Pro Gly Val Ser Phe Ser Pro Asp His His Thr Arg Pro His
65 70 75 80

Cys Glu Ser Cys Arg His Cys Asn Ser Gly Leu Leu Val Arg Asn Cys
85 90 95

Thr Ile Thr Ala Asn Ala Glu Cys Ala Cys Arg Asn Gly Trp Gln Cys
100 105 110

Arg Asp Lys Glu Cys Thr Glu Cys Asp Pro Leu Pro Asn Pro Ser Leu
115 120 125

Thr Ala Arg Ser Ser Gln Ala Leu Ser Pro His Pro Gln Pro Thr His
130 135 140

Leu Pro Tyr Val Ser Glu Met Leu Glu Ala Arg Thr Ala Gly His Met
145 150 155 160

Gln Thr Leu Ala Asp Phe Arg Gln Leu Pro Ala Arg Thr Leu Ser Thr

Ala	Ser	Pro	Glu	Asn	Cys	Lys	Glu	Pro	Ser	Ser	Gly	Thr	Ile	Pro	Gln	165	170	175
Ala	Lys	Pro	Thr	Pro	Val	Ser	Pro	Ala	Thr	Ser	Ser	Ala	Ser	Thr	Met	180	185	190
Pro	Val	Arg	Gly	Gly	Thr	Arg	Leu	Ala	Gln	Glu	Ala	Ala	Ser	Lys	Leu	195	200	205
Thr	Arg	Ala	Pro	Asp	Ser	Pro	Ser	Ser	Val	Gly	Arg	Pro	Ser	Ser	Asp	210	215	220
Pro	Gly	Leu	Ser	Pro	Thr	Gln	Pro	Cys	Pro	Glu	Gly	Ser	Gly	Asp	Cys	225	230	235
Arg	Lys	Gln	Cys	Glu	Pro	Asp	Tyr	Tyr	Leu	Asp	Glu	Ala	Gly	Arg	Cys	245	250	255
Thr	Ala	Cys	Val	Ser	Cys	Ser	Arg	Asp	Asp	Leu	Val	Glu	Lys	Thr	Pro	260	265	270
Cys	Ala	Trp	Asn	Ser	Ser	Arg	Thr	Cys	Glu	Cys	Arg	Pro	Gly	Met	Ile	275	280	285
Cys	Ala	Thr	Ser	Ala	Thr	Asn	Ser	Cys	Ala	Arg	Cys	Val	Pro	Tyr	Pro	290	295	300
Ile	Cys	Ala	Ala	Glu	Thr	Val	Thr	Lys	Pro	Gln	Asp	Met	Ala	Glu	Lys	305	310	315
Asp	Thr	Thr	Phe	Glu	Ala	Pro	Pro	Leu	Gly	Thr	Gln	Pro	Asp	Cys	Asn	325	330	335
Pro	Thr	Pro	Glu	Asn	Gly	Glu	Ala	Pro	Ala	Ser	Thr	Ser	Pro	Thr	Gln	340	345	350
Ser	Leu	Leu	Val	Asp	Ser	Gln	Ala	Ser	Lys	Thr	Leu	Pro	Ile	Pro	Thr	355	360	365
Ser	Ala	Pro	Val	Ala	Leu	Ser	Ser	Thr	Gly	Lys	Pro	Val	Leu	Asp	Ala	370	375	380
Gly	Pro	Val	Leu	Phe	Trp	Val	Ile	Leu	Val	Leu	Val	Val	Val	Val	Gly	385	390	395
Ser	Ser	Ala	Phe	Leu	Leu	Cys	His	Arg	Arg	Ala	Cys	Arg	Lys	Arg	Ile	405	410	415
Arg	Gln	Lys	Leu	His	Leu	Cys	Tyr	Pro	Val	Gln	Thr	Ser	Gln	Pro	Lys	420	425	430
Leu	Glu	Leu	Val	Asp	Ser	Arg	Pro	Arg	Arg	Ser	Ser	Thr	Gln	Leu	Arg	435	440	445
Ser	Gly	Ala	Ser	Val	Thr	Glu	Pro	Val	Ala	Glu	Glu	Arg	Gly	Leu	Met	450	455	460

Ser Gln Pro Leu Met Glu Thr Cys His Ser Val Gly Ala Ala Tyr Leu
 465 470 475 480
 Glu Ser Leu Pro Leu Gln Asp Ala Ser Pro Ala Gly Gly Pro Ser Ser
 485 490 495
 Pro Arg Asp Leu Pro Glu Pro Arg Val Ser Thr Glu His Thr Asn Asn
 500 505 510
 Lys Ile Glu Lys Ile Tyr Ile Met Lys Ala Asp Thr Val Ile Val Gly
 515 520 525
 Thr Val Lys Ala Glu Leu Pro Glu Gly Arg Gly Leu Ala Gly Pro Ala
 530 535 540
 Glu Pro Glu Leu Glu Glu Glu Leu Glu Ala Asp His Thr Pro His Tyr
 545 550 555 560
 Pro Glu Gln Glu Thr Glu Pro Pro Leu Gly Ser Cys Ser Asp Val Met
 565 570 575
 Leu Ser Val Glu Glu Glu Gly Lys Glu Asp Pro Leu Pro Thr Ala Ala
 580 585 590
 Ser Gly Lys
 595

<210> 12
 <211> 277
 <212> PRT
 <213> Homo sapiens

<400> 12
 Met Val Arg Leu Pro Leu Gln Cys Val Leu Trp Gly Cys Leu Leu Thr
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 Ala Val His Pro Glu Pro Pro Thr Ala Cys Arg Glu Lys Gln Tyr Leu
 20 25 30
 Ile Asn Ser Gln Cys Cys Ser Leu Cys Gln Pro Gly Gln Lys Leu Val
 35 40 45
 Ser Asp Cys Thr Glu Phe Thr Glu Thr Glu Cys Leu Pro Cys Gly Glu
 50 55 60
 Ser Glu Phe Leu Asp Thr Trp Asn Arg Glu Thr His Cys His Gln His
 65 70 75 80
 Lys Tyr Cys Asp Pro Asn Leu Gly Leu Arg Val Gln Gln Lys Gly Thr
 85 90 95
 Ser Glu Thr Asp Thr Ile Cys Thr Cys Glu Glu Gly Trp His Cys Thr
 100 105 110
 Ser Glu Ala Cys Glu Ser Cys Val Leu His Arg Ser Cys Ser Pro Gly
 115 120 125

Phe Gly Val Lys Gln Ile Ala Thr Gly Val Ser Asp Thr Ile Cys Glu
 130 135 140
 Pro Cys Pro Val Gly Phe Phe Ser Asn Val Ser Ser Ala Phe Glu Lys
 145 150 155 160
 Cys His Pro Trp Thr Ser Cys Glu Thr Lys Asp Leu Val Val Gln Gln
 165 170 175
 Ala Gly Thr Asn Lys Thr Asp Val Val Cys Gly Pro Gln Asp Arg Leu
 180 185 190
 Arg Ala Leu Val Val Ile Pro Ile Ile Phe Gly Ile Leu Phe Ala Ile
 195 200 205
 Leu Leu Val Leu Val Phe Ile Lys Lys Val Ala Lys Lys Pro Thr Asn
 210 215 220
 Lys Ala Pro His Pro Lys Gln Glu Pro Gln Glu Ile Asn Phe Pro Asp
 225 230 235 240
 Asp Leu Pro Gly Ser Asn Thr Ala Ala Pro Val Gln Glu Thr Leu His
 245 250 255
 Gly Cys Gln Pro Val Thr Gln Glu Asp Gly Lys Glu Ser Arg Ile Ser
 260 265 270
 Val Gln Glu Arg Gln
 275

<210> 13
 <211> 255
 <212> PRT
 <213> Homo sapiens

<400> 13
 Met Gly Asn Ser Cys Tyr Asn Ile Val Ala Thr Leu Leu Leu Val Leu
 1 5 10 15
 Asn Phe Glu Arg Thr Arg Ser Leu Gln Asp Pro Cys Ser Asn Cys Pro
 20 25 30
 Ala Gly Thr Phe Cys Asp Asn Asn Arg Asn Gln Ile Cys Ser Pro Cys
 35 40 45
 Pro Pro Asn Ser Phe Ser Ser Ala Gly Gly Gln Arg Thr Cys Asp Ile
 50 55 60
 Cys Arg Gln Cys Lys Gly Val Phe Arg Thr Arg Lys Glu Cys Ser Ser
 65 70 75 80
 Thr Ser Asn Ala Glu Cys Asp Cys Thr Pro Gly Phe His Cys Leu Gly
 85 90 95
 Ala Gly Cys Ser Met Cys Glu Gln Asp Cys Lys Gln Gly Gln Glu Leu

100					105					110					
Thr	Lys	Lys	Gly	Cys	Lys	Asp	Cys	Cys	Phe	Gly	Thr	Phe	Asn	Asp	Gln
	115						120					125			
Lys	Arg	Gly	Ile	Cys	Arg	Pro	Trp	Thr	Asn	Cys	Ser	Leu	Asp	Gly	Lys
	130					135					140				
Ser	Val	Leu	Val	Asn	Gly	Thr	Lys	Glu	Arg	Asp	Val	Val	Cys	Gly	Pro
145						150					155				160
Ser	Pro	Ala	Asp	Leu	Ser	Pro	Gly	Ala	Ser	Ser	Val	Thr	Pro	Pro	Ala
				165					170					175	
Pro	Ala	Arg	Glu	Pro	Gly	His	Ser	Pro	Gln	Ile	Ile	Ser	Phe	Phe	Leu
			180					185					190		
Ala	Leu	Thr	Ser	Thr	Ala	Leu	Leu	Phe	Leu	Leu	Phe	Phe	Leu	Thr	Leu
	195						200					205			
Arg	Phe	Ser	Val	Val	Lys	Arg	Gly	Arg	Lys	Lys	Leu	Leu	Tyr	Ile	Phe
	210					215					220				
Lys	Gln	Pro	Phe	Met	Arg	Pro	Val	Gln	Thr	Thr	Gln	Glu	Glu	Asp	Gly
225						230					235				240
Cys	Ser	Cys	Arg	Phe	Pro	Glu	Glu	Glu	Glu	Gly	Gly	Cys	Glu	Leu	
				245				250						255	

<210> 14

<211> 277

<212> PRT

<213> Homo sapiens

<400> 14

Met	Cys	Val	Gly	Ala	Arg	Arg	Leu	Gly	Arg	Gly	Pro	Cys	Ala	Ala	Leu
1				5					10					15	

Leu	Leu	Leu	Gly	Leu	Gly	Leu	Ser	Thr	Val	Thr	Gly	Leu	His	Cys	Val
			20					25					30		

Gly	Asp	Thr	Tyr	Pro	Ser	Asn	Asp	Arg	Cys	Cys	His	Glu	Cys	Arg	Pro
	35						40					45			

Gly	Asn	Gly	Met	Val	Ser	Arg	Cys	Ser	Arg	Ser	Gln	Asn	Thr	Val	Cys
	50					55					60				

Arg	Pro	Cys	Gly	Pro	Gly	Phe	Tyr	Asn	Asp	Val	Val	Ser	Ser	Lys	Pro
65					70					75					80

Cys	Lys	Pro	Cys	Thr	Trp	Cys	Asn	Leu	Arg	Ser	Gly	Ser	Glu	Arg	Lys
				85					90					95	

Gln	Leu	Cys	Thr	Ala	Thr	Gln	Asp	Thr	Val	Cys	Arg	Cys	Arg	Ala	Gly
			100					105						110	

Thr Gln Pro Leu Asp Ser Tyr Lys Pro Gly Val Asp Cys Ala Pro Cys
 115 120 125
 Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp
 130 135 140
 Thr Asn Cys Thr Leu Ala Gly Lys His Thr Leu Gln Pro Ala Ser Asn
 145 150 155 160
 Ser Ser Asp Ala Ile Cys Glu Asp Arg Asp Pro Pro Ala Thr Gln Pro
 165 170 175
 Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr Val Gln Pro Thr
 180 185 190
 Glu Ala Trp Pro Arg Thr Ser Gln Gly Pro Ser Thr Arg Pro Val Glu
 195 200 205
 Val Pro Gly Gly Arg Ala Val Ala Ala Ile Leu Gly Leu Gly Leu Val
 210 215 220
 Leu Gly Leu Leu Gly Pro Leu Ala Ile Leu Leu Ala Leu Tyr Leu Leu
 225 230 235 240
 Arg Arg Asp Gln Arg Leu Pro Pro Asp Ala His Lys Pro Pro Gly Gly
 245 250 255
 Gly Ser Phe Arg Thr Pro Ile Gln Glu Glu Gln Ala Asp Ala His Ser
 260 265 270
 Thr Leu Ala Lys Ile
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<210> 15
 <211> 349
 <212> PRT
 <213> Homo sapiens

<400> 15
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 Ile Asn Gly Arg Asp Ala Ala Pro Tyr Thr Pro Pro Asn Gly Lys Cys
 20 25 30
 Lys Asp Thr Glu Tyr Lys Arg His Asn Leu Cys Cys Leu Ser Cys Pro
 35 40 45
 Pro Gly Thr Tyr Ala Ser Arg Leu Cys Asp Ser Lys Thr Asn Thr Gln
 50 55 60
 Cys Thr Pro Cys Gly Ser Gly Thr Phe Thr Ser Arg Asn Asn His Leu
 65 70 75 80
 Pro Ala Cys Leu Ser Cys Asn Gly Arg Cys Asn Ser Asn Gln Val Glu
 85 90 95

Thr Arg Ser Cys Asn Thr Thr His Asn Arg Ile Cys Glu Cys Ser Pro
 100 105 110
 Gly Tyr Tyr Cys Leu Leu Lys Gly Ser Ser Gly Cys Lys Ala Cys Val
 115 120 125
 Ser Gln Thr Lys Cys Gly Ile Gly Tyr Gly Val Ser Gly His Thr Ser
 130 135 140
 Val Gly Asp Val Ile Cys Ser Pro Cys Gly Phe Gly Thr Tyr Ser His
 145 150 155 160
 Thr Val Ser Ser Ala Asp Lys Cys Glu Pro Val Pro Asn Asn Thr Phe
 165 170 175
 Asn Tyr Ile Asp Val Glu Ile Thr Leu Tyr Pro Val Asn Asp Thr Ser
 180 185 190
 Cys Thr Arg Thr Thr Thr Thr Gly Leu Ser Glu Ser Ile Leu Thr Ser
 195 200 205
 Glu Leu Thr Ile Thr Met Asn His Thr Asp Cys Asn Pro Val Phe Arg
 210 215 220
 Glu Glu Tyr Phe Ser Val Leu Asn Lys Val Ala Thr Ser Gly Phe Phe
 225 230 235 240
 Thr Gly Glu Asn Arg Tyr Gln Asn Ile Ser Lys Val Cys Thr Leu Asn
 245 250 255
 Phe Glu Ile Lys Cys Asn Asn Lys Gly Ser Ser Phe Lys Gln Leu Thr
 260 265 270
 Lys Ala Lys Asn Asp Asp Gly Met Met Ser His Ser Glu Thr Val Thr
 275 280 285
 Leu Ala Gly Asp Cys Leu Ser Ser Val Asp Ile Tyr Ile Leu Tyr Ser
 290 295 300
 Asn Thr Asn Ala Gln Asp Tyr Glu Thr Asp Thr Ile Ser Tyr Arg Val
 305 310 315 320
 Gly Asn Val Leu Asp Asp Asp Ser His Met Pro Gly Ser Cys Asn Ile
 325 330 335
 His Lys Pro Ile Thr Asn Ser Lys Pro Thr Arg Phe Leu
 340 345

<210> 16

<211> 355

<212> PRT

<213> Homo sapiens

<400> 16

Met Lys Ser Tyr Ile Leu Leu Leu Leu Leu Ser Cys Ile Ile Ile Ile

1	5	10	15
Asn Ser Asp Ile Thr Pro His Glu Pro Ser Asn Gly Lys Cys Lys Asp	20	25	30
Asn Glu Tyr Lys Arg His His Leu Cys Cys Leu Ser Cys Pro Pro Gly	35	40	45
Thr Tyr Ala Ser Arg Leu Cys Asp Ser Lys Thr Asn Thr Asn Thr Gln	50	55	60
Cys Thr Pro Cys Ala Ser Asp Thr Phe Thr Ser Arg Asn Asn His Leu	65	70	75
Pro Ala Cys Leu Ser Cys Asn Gly Arg Cys Asp Ser Asn Gln Val Glu	85	90	95
Thr Arg Ser Cys Asn Thr Thr His Asn Arg Ile Cys Asp Cys Ala Pro	100	105	110
Gly Tyr Tyr Cys Phe Leu Lys Gly Ser Ser Gly Cys Lys Ala Cys Val	115	120	125
Ser Gln Thr Lys Cys Gly Ile Gly Tyr Gly Val Ser Gly His Thr Pro	130	135	140
Thr Gly Asp Val Val Cys Ser Pro Cys Gly Leu Gly Thr Tyr Ser His	145	150	155
Thr Val Ser Ser Val Asp Lys Cys Glu Pro Val Pro Ser Asn Thr Phe	165	170	175
Asn Tyr Ile Asp Val Glu Ile Asn Leu Tyr Pro Val Asn Asp Thr Ser	180	185	190
Cys Thr Arg Thr Thr Thr Thr Gly Leu Ser Glu Ser Ile Ser Thr Ser	195	200	205
Glu Leu Thr Ile Thr Met Asn His Lys Asp Cys Asp Pro Val Phe Arg	210	215	220
Asn Gly Tyr Phe Ser Val Leu Asn Glu Val Ala Thr Ser Gly Phe Phe	225	230	235
Thr Gly Gln Asn Arg Tyr Gln Asn Ile Ser Lys Val Cys Thr Leu Asn	245	250	255
Phe Glu Ile Lys Cys Asn Asn Lys Asp Ser Tyr Ser Ser Ser Lys Gln	260	265	270
Leu Thr Lys Thr Lys Asn Asp Asp Asp Ser Ile Met Pro His Ser Glu	275	280	285
Ser Val Thr Leu Val Gly Asp Cys Leu Ser Ser Val Asp Ile Tyr Ile	290	295	300
Leu Tyr Ser Asn Thr Asn Thr Gln Asp Tyr Glu Thr Asp Thr Ile Ser			

305		310		315		320									
Tyr	His	Val	Gly	Asn	Val	Leu	Asp	Val	Asp	Ser	His	Met	Pro	Gly	Arg
			325						330					335	
Cys	Asp	Thr	His	Lys	Leu	Ile	Thr	Asn	Ser	Asn	Ser	Gln	Tyr	Pro	Thr
			340					345					350		
His	Phe	Leu													
		355													

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tgagggcgct ggaggggcca ggctgtgc tgctgtgcct ggtgttgccg ctgcctgccc 120
tgctgccggt gccggtgta cgcggagtgg cagaaacacn nacntacccc tggcgggacg 180
nagagacagg ggagcggctg gtgtntnccc antgcccccc aggcaccttt ntgcagcggc 240
cgtgccgncg agacagcccc acgacgtgtg gcccgtnccc accgcgccac tacacgcatt 300
ctggaactac ctggagcgct gncgttactn caacgtcctc tgcggggagc gtnaggagga 360
ggcacgggtt tccacgnca accacaaccg nggnttaccg tngccgnacc ggtttcttcg 420
nggcaagttg gtttttnntt tggagnaagg attcgtgttn caattnattg acgnagtgat 480

<210> 18
<211> 191
<212> DNA
<213> Homo sapiens

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<221> misc_feature
<222> (125)
<223> n equals a, t, g, or c

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<223> n equals a, t, g, or c

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gagcntgccg tcatcgactt tttggctttc caggacatct ccatcaagag gctgcagcgg 180
ctgctcangc c 191

<210> 19
<211> 26
<212> DNA
<213> Homo sapiens

<400> 19
cgcccatggc agaaacaccc acctac 26

<210> 20
<211> 26
<212> DNA
<213> Homo sapiens

<400> 20
cgcaagcttc tctttcagtg caagtg 26

<210> 21
<211> 28
<212> DNA
<213> Homo sapiens

<400> 21
cgcaagcttc tcctcagctc ctgcagtg 28

<210> 22
<211> 36
<212> DNA
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<400> 22
cgcggtaccg ccatcatgag ggcgtggagg ggccag 36

<210> 23
<211> 26
<212> DNA
<213> Homo sapiens

<400> 23
cgcggtaccc tctttcagtg caagtg 26

<210> 24
<211> 28
<212> DNA
<213> Homo sapiens

<400> 24
cgcggtaccc tcctcagctc ctgcagtg 28

<210> 25
<211> 33
<212> DNA
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<400> 25
agaccaagc ttctgctcc agcaaggacc atg 33

<210> 26
<211> 50
<212> DNA
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<400> 26
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<210> 27
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<212> DNA
<213> Homo sapiens

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tctcccgga	tcttgaggtc	acatgcgtgg	tggtagacgt	aagccacgaa	gaccctgagg	180
tcaagttcaa	ctggtacgtg	gacggcgtgg	aggtgcataa	tgccaagaca	aagccgcggg	240
aggagcagta	caacagcacg	taccgtgtgg	tcagcgtcct	caccgtcctg	caccaggact	300
ggctgaatgg	caaggagtac	aagtgcaagg	tctccaacaa	agccctccca	accccatcg	360
agaaaacat	ctccaaagcc	aaagggcagc	cccgagaacc	acaggtgtac	accctgcccc	420
catcccgga	tgagctgacc	aagaaccagg	tcagcctgac	ctgcctggtc	aaaggcttct	480
atccaagcga	catcgccgtg	gagtgggaga	gcaatgggca	gccggagaac	aactacaaga	540
ccacgcctcc	cgtgctggac	tccgacggct	ccttcttctt	ctacagcaag	ctcaccgtgg	600
acaagagcag	gtggcagcag	gggaacgtct	tctcatgctc	cgtgatgcat	gaggctctgc	660
acaaccacta	cacgcagaag	agcctctccc	tgtctccggg	taaatagagt	cgacggccgc	720
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